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## NOTICE OF ALLOWANCE AND FEE(S) DUE

22850

7590

02/22/2010

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

CHOWDHURY, AFROZA Y

ART UNIT

PAPER NUMBER

2629

DATE MAILED: 02/22/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,437	10/25/2004	Hiroshi Takahara	259686US2PCT	3978

TITLE OF INVENTION: DRIVE METHOD OF EL DISPLAY APPARATUS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	05/24/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

## HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to:** Mail **Mail Stop ISSUE FEE**  
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**P.O. Box 1450**  
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**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

22850 7590 02/22/2010

**OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.**  
**1940 DUKE STREET**  
**ALEXANDRIA, VA 22314**

**Certificate of Mailing or Transmission**  
 I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,437	10/25/2004	Hiroshi Takahara	259686US2PCT	3978
TITLE OF INVENTION: DRIVE METHOD OF EL DISPLAY APPARATUS				

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nonprovisional	NO	\$1510	\$300	\$0	\$1810	05/24/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHOWDHURY, AFROZA Y	2629	345-076000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_  
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_  
 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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22850	7590	02/22/2010	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			CHOWDHURY, AFROZA Y	
			ART UNIT	PAPER NUMBER

2629  
DATE MAILED: 02/22/2010

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 3 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 3 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability****Application No.**

10/511,437

**Applicant(s)**

TAKAHARA, HIROSHI

**Examiner**

AFROZA Y. CHOWDHURY

**Art Unit**

2629

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/23/2009.
2. ☒ The allowed claim(s) is/are 1,4,15-18,31,32 and 34-39, now renumbered as 1-14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date See Continuation Sheet
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

Continuation of Attachment(s) 3. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: 12/17/2009, 9/16/2009.

**DETAILED ACTION**  
**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with **Surinder Sachar** on **February 4, 2010**.

**In the Claims:**

Claim 1 (Currently Amended by Applicant): A drive method of an EL display apparatus that comprises a display screen in which a plurality of pixels each of which includes an EL element are formed in a matrix and a switching element which turns on/off a current that flows in the EL element, the drive method comprising:

weighting image data with respect to a color of respective of the plurality of pixels, said image data generating a signal which is to be impressed to the respective pixels of the EL display apparatus, aggregating said weighted image data, and  
when results of said aggregating of said weighted image data are larger than a predetermined value,

suppressing an amount of current that flows in the EL element by shortening a time period to pass the current during one frame period by controlling said switching element, displaying a non-display area on the display screen of the EL display apparatus, and shifting the non-display area on the display screen synchronizing with said one frame period.

Claims 2-3 (Previously Canceled).

Claim 4 (Currently Amended by Applicant): An EL display apparatus including a display screen in which a plurality of pixels each of which includes an EL element are formed in a matrix, the EL display apparatus comprising:

a switching element which turns on/off a current that flows in the EL element;

- a gate driver circuit that drives a gate signal line selecting a line of the pixels;
- an aggregation circuit configured to weight image data with respect to color of respective of the plurality of pixels, said image data generating a signal which is to be impressed to the respective pixels of the EL display apparatus, and to aggregate the weighted image data; and
- a control circuit that controls a timing or a period to generate a start pulse signal for the gate driver circuit based on the aggregated image data, wherein
  - the gate driver circuit drives the gate signal line according to the start pulse signal, generates a non-display area on the display screen by controlling said switching element, and shifts the non-display area in a scanning direction of the gate driver circuit.

Claims 5-6 (Canceled by Examiner).

Claims 7-14 (Previously Canceled).

Claim 15 (Previously Presented): The drive method of an EL display apparatus according to Claim 1, wherein:

- said EL display apparatus comprises a gate driver circuit that drives a gate signal line selecting a line of the pixels,
- the non-display area is generated in a belt-like form on the display screen of the EL display apparatus by the gate driving circuit driving the gate signal line; and
- the non-display area is shifted scanning direction of the gate driver circuit.

Claim 16 (Previously Presented): The drive method of an EL display apparatus according to Claim 1, further comprising:

- detecting brightness of outside the EL display apparatus;
- generating a belt-like non-display area and a belt-like display area; and
- changing or adjusting a ratio of the belt-like non-display area and the belt-like display area according to an output value obtained by the detecting.

Claim 17 (Previously Presented): The EL display apparatus according to Claim 4, further comprising:

- a selection circuit formed on a substrate on which the EL elements are formed; and
- a source driver circuit, wherein
  - the source driver circuit outputs a video signal of a first color or a video signal of a second color from a signal output terminal,

the substrate includes source signal lines to supply the video signals of the source driver circuit to the EL elements,

the selection circuit includes an input terminal to connect to the signal output terminal of the source driver circuit and a selection output terminal to connect to the source signal line,

the selection circuit includes a plurality of combinations of one output terminal and a plurality of selection output terminals configured to connect to the one output terminal, and

the selection circuit applies a video signal of the source driver circuit input to the input terminal of the selection circuit to the source signal line connected to the one or plural of selection output terminals that are selected from the plurality of the selection output terminals.

Claim 18 (Previously Presented): The EL display apparatus according to Claim 4, further comprising

a source driver circuit that applies a gradation signal to the EL elements, wherein the source driver circuit includes a voltage output circuit and a current output circuit.

Claims 19-28 (Canceled by Examiner).

Claims 29-30 (Previously Canceled).

Claim 31 (Previously Presented): The EL display apparatus according to claim 4, wherein brightness of the display screen is controlled by varying a ratio of the non-display area to the display screen.

Claim 32 (Previously Presented): The EL display apparatus according to claim 4, wherein the shifting the non-display area in the display screen is performed synchronizing with one frame period.

Claim 33 (Previously Canceled).

Claim 34 (Previously Presented): The EL display apparatus according to claim 4, wherein in the display screen, the plurality of pixels having a plurality of colors are formed in a matrix, and an area of an element of one color of the plurality of colors is different from an area of an element of the other colors.

Claim 35 (Previously Presented): The EL display apparatus according to claim 4, wherein the non-display area is divided into a plurality of parts.



Claim 36 (Newly added by Applicant): The drive method of an EL display apparatus according to Claim 1, wherein: a driver transistor for supplying current to said EL element is formed in said pixel of said EL display apparatus, and

said driver transistor is a P-channel transistor.

Claim 37 (Newly added by Applicant): The drive method of an EL display apparatus according to Claim 1,

wherein, said EL display apparatus further comprises;

a source driver circuit that applies an image signal and,

a switch circuit arranged between an output terminal of said source driver circuit and source signal lines which said pixel is connected with, and

wherein, said switch circuit impresses image signal which is output from said output terminal of said source driver circuit to selected source signal line.

Claim 38 (Newly added by Applicant): The EL display apparatus according to Claim 4, wherein: a driver transistor for supplying current to said EL element is formed in said pixel of said EL display apparatus, and

said driver transistor is a P-channel transistor.

Claim 39 (Newly added by Applicant): The EL display apparatus according to Claim 4, further comprising:

a source driver circuit that applies an image signal and,

a switch circuit arranged between an output terminal of said source driver circuit and source signal lines which said pixel is connected with, and

wherein, said switch circuit impresses image signal which is output from said output terminal of said source driver circuit to selected source signal line.

Claims 40-45 (Canceled by Examiner).

***Allowable Subject Matter***

2. Claims 1, 4, 15-18, 31, 32, and 34-39 are allowed.
3. The following is an examiner's statement of reasons for allowance:

As argued by the Applicant in the Remarks, dated **December 23, 2009**, the cited references have failed to teach, **"weighting image data with respect to a color of respective of the plurality of pixels, said image data generating a signal which is to be impressed to the respective pixels of the EL display apparatus, aggregating said weighted image data, and when results of said aggregating of said weighted image data are larger than a predetermined value, suppressing an amount of current that flows in the EL element by shortening a time period to pass the current during one frame period by controlling said switching element, displaying a non-display area on the display screen of the EL display apparatus, and shifting the non-display area on the display screen synchronizing with said one frame period"** in combination with other limitations of claims 1 and 4.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AFROZA Y. CHOWDHURY whose telephone number is (571)270-1543. The examiner can normally be reached on 7:30-5:00 EST, 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC  
2/4/2010

/Bipin Shalwala/  
Supervisory Patent Examiner, Art  
Unit 2629